



Modelling the health impact of environmentally sustainable dietary scenarios in the UK

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Abstract:

BACKGROUND/OBJECTIVES: Food is responsible for around one-fifth of all greenhouse gas (GHG) emissions from products consumed in the UK, the largest contributor of which is meat and dairy. The Committee on Climate Change have modelled the impact on GHG emissions of three dietary scenarios for food consumption in the UK. This paper models the impact of the three scenarios on mortality from cardiovascular disease and cancer. **SUBJECTS/METHODS:** A previously published model (DIETRON) was used. The three scenarios were parameterised by fruit and vegetables, fibre, total fat, saturated fat, monounsaturated fatty acids, polyunsaturated fatty acids, cholesterol and salt using the 2008 Family Food Survey. A Monte Carlo simulation generated 95% credible intervals. **RESULTS:** Scenario 1 (50% reduction in meat and dairy replaced by fruit, vegetables and cereals: 19% reduction in GHG emissions) resulted in 36,910 (30,192 to 43,592) deaths delayed or averted per year. Scenario 2 (75% reduction in cow and sheep meat replaced by pigs and poultry: 9% reduction in GHG emissions) resulted in 1999 (1739 to 2389) deaths delayed or averted. Scenario 3 (50% reduction in pigs and poultry replaced with fruit, vegetables and cereals: 3% reduction in GHG emissions) resulted in 9297 (7288 to 11,301) deaths delayed or averted. **CONCLUSION:** Modelled results suggest that public health and climate change dietary goals are in broad alignment with the largest results in both domains occurring when consumption of all meat and dairy products are reduced. Further work in real-life settings is needed to confirm these results.

Source: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3389618>

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Unspecified Exposure

Geographic Feature:

resource focuses on specific type of geography

None or Unspecified

Geographic Location:

resource focuses on specific location

Climate Change and Human Health Literature Portal

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : United Kingdom

Health Co-Benefit/Co-Harm (Adaption/Mitigation): ☒

specification of beneficial or harmful impacts to health resulting from efforts to reduce or cope with greenhouse gases

A focus of content

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Cancer, Cardiovascular Effect

Cardiovascular Effect: Other Cardiovascular Effect

Cardiovascular Disease (other): coronary disease mortality; stroke mortality

Mitigation/Adaptation: ☒

mitigation or adaptation strategy is a focus of resource

Mitigation

Model/Methodology: ☒

type of model used or methodology development is a focus of resource

Methodology

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified